This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

BF
416
.Z8
M13

B 822,416

M
Harold A.
Goethe Gotz. A study
of his personality.

University of Michigan

GENERAL LIBRARY

OF

UNIVERSITY OF MICHIGAN

PRESENTED BY

U.S. Bureau of Education

Nov. 25 1898 1900

From the Bureau
of Education

EMILE ZOLA

A STUDY OF HIS PERSONALITY, WITH ILLUSTRATIONS

BY

ARTHUR MacDONALD

WASHINGTON, D. C.
1898

WORKS

ON

EDUCATION AND SOCIOLOGY,

By ARTHUR MacDONALD,

Government Specialist in Education as Related to Abnormality.

ABNORMAL.

ABNORMAL MAN, being essays on Education and Crime and related subjects, with digests of literature and a bibliography. 1893. Published by U. S. Government. Washington, D. C. 445 pages, 8°. 2d edition, 1895.

CRIMINOLOGY, a psychological and scientific study of criminals; with introduction by Lombroso. Bibliography. (Second edition.) New York, 1894. Funk & Wagnalls, publishers. 416 pages, 12°. Price, $2.00.

LE CRIMINEL-TYPE dans quelques formes graves de la criminalité Bibliographie de sexualité pathologique. (Troisième édition.) Un volume en 8°, illustrait de portraits. Publié par A. Storck, Lyon, et G. Masson, Paris. 1895. 300 pages. Prix, 5 fr. *This work is not published in English.*

EDUCATION AND PATHO-SOCIAL STUDIES, including an investigation of the murderer "H." (Holmes.) Published by the U. S. Government. 1896. 57 pages, 8°. Washington, D. C.

EMILE ZOLA, a study of Zola's personality, with illustrations, giving results of investigations of French specialists. (Reprint from Open Court, August, 1898. 18 pages.) Price, 25 cts.

NORMAL.

EXPERIMENTAL STUDY OF CHILDREN, including Anthropometrical and Psycho-physical measurements of Washington school children; and a bibliography. (Soon to be published by the U. S. Government.)

COPYRIGHT, 1898, BY ARTHUR MacDONALD.

1214 Q Street N. W.,

Washington, D. C.

Z/6
.Z5
M13

EMILE ZOLA.*

BY ARTHUR MAC DONALD,

WASHINGTON D. C.

THE study of any human being with the means at present in the hands of science would make a volume. Such an investigation of modern civilized man is one of the most recent methods of empirical inquiry. It is paradoxical that man is the last object to be thoroughly studied by man. There is less definite knowledge of modern man than of uncivilized man; there is more definite knowledge about rocks and plants than about man, and though we have made sciences of the former, a science of human beings hardly exists.

The term "science" has been applied to sociology, criminology, and like studies, but they are only sciences by courtesy, and not in the rigid sense of the word; for until there has been a systematic study of large numbers of individual persons, it is difficult to see how sufficient knowledge can be established to constitute sociology a science. The instrumental investigation of man, as carried on at present, is simply a more precise method of procedure, presenting the effects of mental, moral, and physical forces upon the body, of many of which we are unconscious. Empirical methods of studying modern man are being undertaken in many countries, and thus we may come to have in the future an anthropology of the living as well as of the dead.

The most recent study, and perhaps the most thorough one ever made of an individual in society (a number have been made on criminals in prison[1]), is an investigation of Zola, conducted by a number of French specialists.[2]

Zola, after reading the results of these studies that he had per-

[1] See *L'Homme Criminel*, by Lombroso, and *Le Criminel-Type*, by the writer.

[2] Toulouse, Manouvrier, Bertillon, Bloch, Huchard, Joffry, Robin, Mofet, Serveaux, Bonnier, Henry, Philippe, Crepieux-Jamin, Passy, Galippe, and others.

(*Reprinted from "The Open Court," Chicago, August, 1898.*)

mitted the scientists to make on him, says in brief: "I have read these pages, they have interested me much, and I willingly grant authority to publish them as authentic and true; for I have one desire in life, the truth, and one purpose, to make the most of truth. That which tends to truth cannot but be excellent. I give this authority because I have never hidden anything; I have lived openly, spoken freely and without fear that which I believed to be good and useful. In the thousands of pages I have written, I have nothing to withdraw. If my works have certain vices, they may be good for something in serving as a lesson. This study of me is about one who has given his life to work and dedicated to this work all his physical, mental, and moral forces."

ANTECEDENTS.

It seems probable that Zola inherited from his parents and grandparents a vigorous physique, and from his mother a nervous gout or neuro-arthritic condition.

Zola was born at Paris on April 2, 1840. He was not nursed by his mother. He was weaned at the normal time. He did not have convulsions, though in his early infancy he was puny and easily alarmed. He began to walk at the usual age. He was backward in learning to talk; the letter "s" was pronounced like "t," and at present there is a trace of this defect. At the age of two, Zola was attacked with a violent fever, probably cerebral; for some hours he was thought to be dead. Between the ages of six and seven he was affected with other troubles, about which little is known; they necessitated numerous blisters applied to both arms. After recovery he remained pale and delicate, but later he became strong, with a tendency to corpulency which has increased with age. The picture reproduced here is one taken of Zola when six years of age.

ZOLA AT SIX YEARS.

It shows him as a strong child, with a somewhat lymphatic look. The left eye is less open than the right, on account of an orbicular contraction which is still persistent.

The signs of puberty were manifested between thirteen and fourteen, and his sexual instinct was always characterized by a certain timidity, as is often the case with neuropathic persons on account of inhibitory ideas.

Zola finished his studies at Paris at eighteen. At this time he had a severe attack of typhoid fever. The disease lasted six weeks; he was delirious in its acute stages. He remembers the intense heat in his feet and nausea and nightmare with sensations of balancing in space.

After he had abandoned his studies at the Lycée[1] in Paris, he had a life of material privations, so much so at times that he remained in bed in order to keep warm. This in connection with his intense intellectual activity afforded sufficient cause to give form to his congenital neurotic condition. His nervous troubles increased more and more; from the age of twenty to forty, there were intestinal pains; from forty-five to fifty they took the form of cystitis and angina pectoris, with pains in the left arm. At thirty-five he ceased to smoke on account of his cardiac troubles. About this time morbid ideas made their appearance; but such ideas do not seem to have had any antecedents in his youth. When Zola began to be successful, he was more at ease, his health was better; he increased in size and weight, so much so that the least exertion put him out of breath. He had symptoms of gastric dilatation, pyrosis, stomachal pains, and drowsiness after eating. He resolved on a dietetical regimen, which he continues in part to-day; never drinking anything during a meal, and never wine, during the day he takes a litre of tea. In eighteen months he lost forty pounds. Since infancy, and especially since his attack of typhoid fever, his teeth have been bad; their condition was attributed to a general feebleness following upon his loss of flesh.

MENTAL EVOLUTION.

Zola was not a precocious child; he did not know how to read at seven. At this time his father and mother went to Aix. He remained there five years, from seven to twelve; during this time he did not learn very much, but enjoyed much freedom in out-door recreation. As early as ten he had his little love affairs; at twelve they became less superficial and more complicated, although purely mental. Notwithstanding this seeming precocity, women did not play a great rôle in his life as a young man. With his comrades he

[1] Our grammar and high school, combined with our college, would correspond to the Lycée.

was reserved, not making acquaintances easily, but affectionate towards those who were his friends. This reserve was probably increased by his timidity ; it is a permanent trait in his character.

At twelve he entered the eighth class at the Lycée in Aix ; he was much behind in his studies, being at the foot of his class. But he went to work seriously and gained several prizes at the end of the year, and continued doing well in the subsequent years. He chose the scientific course as much on account of his repugnance to the dead languages, especially Greek, as by his attraction for natural science. He was a methodical and practical student, not lazy, not over-enthusiastic. Zola was versed in what may be called the new art of the future, the art of knowing what to omit, to do only the indispensable ; this was fundamental in his character.

When eighteen he left Aix with his parents to return to Paris, where he entered the Lycée to continue his studies. But he felt somewhat behind his comrades ; they also made sport of him on account of his provincial accent. He did not go with any of the students. Becoming discouraged and disgusted with classical training, he did not follow the course and did not do well in his other studies. After finishing philosophy he presented himself for the baccalaureate in science, but did not pass in German history and even failed in literature.

Now thrown upon the world with his mother, who had lost little by little all her resources, his natural disposition caused him to utilize the conditions of poverty, which in the lives of most men seem to be necessary to develop personality to its utmost possibility. He was forced to start out independently, with neither father nor brother with whom he could discuss his opinions ; he was free to choose his own path ; to this Zola attributes his pursuit of independent literature.

He assisted his mother in housekeeping, kept strict account of all the details and finances. He was obliged to live among the poor of Paris. It is interesting to note how he utilized those experiences in his writings.

Zola did not plan at first to live by his pen, for he was not conscious of his great literary talent. At fifteen he felt a taste for literature and read with two friends a little of everything. The three enjoyed Hugo and Musset the most. They preferred long walks into the country rather than the pleasures of the theatre or games. Zola could not choose any of the liberal professions because he was not a Bachelor of Arts ; so, as he himself says, he was forced to take to literature, because there was nothing else to do. But literature

pleased him and gradually he found that he could earn enough to live by his writings.

GENERAL PHYSICAL CHARACTERISTICS.

Zola is now fifty-seven years of age. He is below medium stature and of robust appearance. The chest is large, the shoulders high and narrow, the muscles are fairly developed, although he exercises little. The skin is white and wrinkled in places; his hair and beard were dark, but to-day they are grey; the head and face are large, the features are accentuated; his look is searching, but

PORTRAITS OF ZOLA AT FIFTY-SEVEN YEARS.

rendered somewhat vague by near-sightedness. In general, his physiognomy expresses continuous reflection of a serious nature. His voice is good, but the final letters are sometimes uttered in falsetto.

ANTHROPOLOGICAL EXAMINATION.

Before giving some of the results of these investigations in detail, we may ask as to the utility of so many minute measurements.

It is true that in the modern psychophysical and anthropological mode of inquiry, there is a danger of making too fine distinctions, such as insisting on half-millimetres, or valuing too much a difference of a few thousandths of a second, or of massing together a large number of facts, which like a pile of bricks, have no definite relation to each other. But new lines of study require more detail.

It is better to have too many facts than too few; for by leaving out data in a preliminary line of inquiry we assume that we know in advance what material will be important and what not important, and thus exclude facts for theoretical reasons, allowing presuppositions undue influence. If we knew beforehand what was of most value, the investigation might be superfluous.

The utilitarian objection to empirical inquiry fails to understand the foundation of all love of knowledge. It is frequently asked, what is the use of this or that experiment, "Will any good come out of it?" "Will any evils of society be lessened?" etc., etc. It may be answered that if sociological evils are to be remedied, the first step is to find out their *causes* definitely, and experimental investigation is one of the best methods. But the primary idea of science is truth for its own sake, and under the inspiration of this ideal, most of the discoveries of utility to humanity have been made. In all experimental work much may be done that subsequently is seen to have been unnecessary. But often the real significance of a fact cannot be known, until other facts have been brought to light.

We give some of the anthropometrical measurements and descriptions made by Bertillon, the inventor of the "Bertillon System of Identification," and by Manouvrier, the distinguished physical anthropologist:

ANTHROPOMETRICAL.

Height, 1 m 705 mm.
Sitting height, 890 mm.
Arm reach, 1 m. 770 mm.
Maximum length of head, 191 mm.
Maximum width of head, 156 mm.
Cephalic index, 81 mm.
Length of right ear, 69 mm.
Width of right ear, 31 mm.
Length of left foot, 262 mm.
Length of right foot, 269 mm.
Vertical diameter of head, 143 mm.
Bizygomatic diameter of head, 146 mm.
Chest girth, 1 m. 60 mm.
Waist girth 1 m. 70 mm.
Weight, 160 pounds.

Forehead: Superciliary arches medium; inclination medium; height and length above average; several horizontal wrinkles.

Color of left iris: Aureola chestnut, periphery greenish slate.

Nose: Root of medium depth; ridge rectilinear; base slightly elevated; medium in height and prominence; tip bilobed; nostrils wide.

Lips: Nasolabial height medium; upper lip prominent, medium thick.

Chin: Inclination prominent; height low.

Mouth: Medium in size; corners lowered.

Right ear: Original ridge medium; superior and posterior ridge large.

Lobe: Contour square; slightly adherent to cheek; height large.

Anti-tragus: Inclination obilque; profile rectilinear; reversion (turning over) intermediate; small in size.

Folds: Inferior concave; superior intermediate; rectilinear in form.

Left ear: Original ridge small; superior ridge medium; posterior ridge large.

Lobe: Contour square, slightly adherent to cheek; height large.

Anti-tragus: Inclination oblique; profile rectilinear; reversion (turning over) intermediate; small in size.

Folds: Inferior concave; superior intermediate; rectilinear in form.

Eyelids: Palpebral fissure or slit medium; superior left one uncovered.

Hair: Chestnut; insertion in points.

Beard: Light chestnut, turning to gray.

PHYSICAL PECULIARITIES.

Zola is a little below the average in height and sitting height, but in arm-reach he is about the average. His head is more than average in size; but this would not necessarily mean a larger brain, on account of the thickness of the bones of the cranium being unknown.

The anti-tragus of the ears is almost absent and the border adheres to the cheek. The upper left eyelid is somewhat low. The wrinkles of the forehead are very old, existing as early as the age of six; so that at that time he was called serious or grave. Manouvrier regards these wrinkles as a sign of emotivity. Wrinkles in London school children were shown by Warner[1] to indicate dulness. In examining school children in this country the writer has found this to be a general truth, except where children are near-sighted, in which case the wrinkles may be due to the strain of the eyes. Wrinkles may be normal in mature people, but not in children. One cause of the wrinkles may be this: a dull child finding its lessons difficult, must make more of an effort or strain, which is expressed by wrinkles on the forehead; repetition gives these wrinkles permanence in early life. Zola's near-sightedness may account for the wrinkles in his childhood. There are vertical wrinkles in front of the ear, especially on the left side; Zola hears best on this side. Toulouse thinks this might indicate more active movements in connection with hearing.

When in a state of repose and looking at a distance, the left eyebrow is notably lowered; this is probably due to an orbicular contraction of long standing and can be considered as a neuropathic stigma.

FORM OF ZOLA'S HANDS.

His hands are 112 millimetres in breadth and 110 millimetres in length; they are broad rather than long, emphasizing the human

[1] Warner, Francis. "On Mental Condition of 50,000 London School Children." See *Report of U. S. Commissioner of Education 1890–1891*, Vol. 2, pp. 1081–1138.

PALM OF LEFT HAND.

PALM OF RIGHT HAND.

type as distinguished from the simian. The two median folds in the palms unite at their radial extremities. When the hand is flat and the thumb rests against the index finger, the muscular extension into the interosseous space is greatly increased. This indicates, according to Féré, a great possibility of movement. The finger nails are small and round.

FINGER IMPRINTS.

The upper column in the figure represents the imprints of the left hand, the lower column those of the right hand. The imprints of the thumbs begin at the extreme left and follow in succession, ending with those of the little fingers.

FINGER IMPRINTS.

In accordance with the general principle that complexity of function and design are parallel, Féré finds among the degenerate the most simple forms as that of an arch; this arch he finds in the imprint of Zola's middle left finger. But the idea has not been confirmed as yet by other investigators.

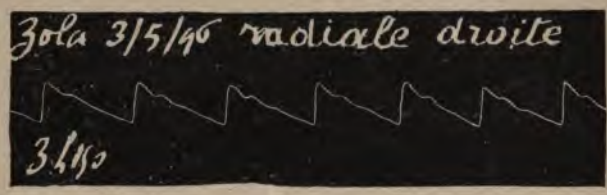
The imprints of the left-hand fingers, especially the three last, are not so clear, the skin at the ends being very wrinkled; the little hairs are almost effaced. This may be because the fingers are used less; for age affects immediately those functions the least exercised. Galton affirms that in all his investigations he has not as yet found any relation between finger imprints and moral or other characteristics.

Toulouse finds Zola, from an anatomical point of view, free

from any notable defects which would make him pass beyond the limits of normal variation.

CIRCULATORY ORGANS.

The circulatory organs are sound; the pulse slow (fifty-five); the form of pulse taken by the sphygmograph of Marey is here given:



PULSE, TRACED BY SPHYGMOGRAPH, REDUCED ONE-NINTH IN SIZE.

The line of ascension is straight, the line of descension is undulated; the slight polyerotism,[1] or wave-like line, indicates great arterial elasticity. Arterial pressure is strong, being about nine hundred and fifty grams. Sometimes there are pains in the thoracic region on the left with constrictive sensations and irradiation in the left arm; this angina symptom alternates with crises of false cystitis.

There is a constant capillary pulse, indicated thus:

CAPILLARY PULSE FROM PLETHISMOGRAPH OF HALLION AND COMPTE.

RESPIRATION.

Zola was rarely subject to colds before forty-five, but since then he has become more susceptible. His respiration is calm, regular, and of normal frequence, about eighteen a minute. The movement of the chest in respiration as traced by the pneumograph ishe re given:

[1] A condition of secondary waves or beats of the heart.

RESPIRATION TRACED BY PNEUMOGRAPH, REDUCED THREE-FIFTHS.

The ascending line represents inspiration ; it is shorter and straighter than the descending line, which represents expiration.

The writer has endeavored to show experimentally the effects of emotional and mental states on the respiration, and the result would seem to indicate that every thought and feeling affects the respiration, the sensibilities, and circulation. The object of such investigation is to measure these effects, however slight they may be. By making such studies on large numbers of persons, it may be possible to gain more definite knowledge of the causes of our mental, moral, and emotional experiences in life.

DIGESTIVE APPARATUS.

The teeth are bad. The alveolar arch is not normal. The digestive functions have been troublesome for a long time, but of late they have very much improved by a special regimen : at 9 a. m. a piece of dry bread without drink ; at 1 p. m. a light breakfast without liquid or food containing starch ; at 5 p. m. some cake with tea ; at 7.30 p. m. a light dinner ; at 10 p. m. two cups of tea ; no wine. When riding bicycle Zola takes a great deal of tea, as much as one litre per day. In this way he has kept his corpulency in check. To hold one's self to such a regimen indicates great tenacity.

MUSCULAR SYSTEM.

The muscles are well developed, although little exercised ; but lately Zola has taken moderate exercise on a bicycle. When resting he has a sensation of numbness ; there is also a trembling of the fingers in fine movements ; in voluntary movements it is exaggerated, so that he sometimes turns a tumbler over when trying to drink from it. This phase of his nervous troubles is still more exaggerated by emotion, so that he has not been able to read a public address.

The strength of his right-hand grasp, as indicated by the dynamometer, is forty-two kilograms ; that of his left hand, thirty-six kilograms. This power of grasp seems to vary under the influence of certain excitation. One day when he felt dejected the power of

grasp of both hands was at the maximum. It is well known how music affects the power of hand-grasp.

The functions of hand and arm are considered of much importance because they appear in close relation with the brain.

NERVOUS SYSTEM.

The sensibility of the skin is very developed. This may be due in part to the abundance of little hairs on the skin, which extend much beyond the normal with Zola. The sensitiveness of heat and cold is very great. Reflex sensibility is normal, but tendon reflexes are somewhat exaggerated. The muscular sense seems normal.

When standing there is a slight oscillation to the right, if the eyes are closed and the feet placed together. Zola is troubled with vertigo. He is exceedingly sensitive to pain.

Sleep, which is a general function of the nervous system, is good, yet after seven or eight hours of rest he awakes with a feeling of fatigue, with cramps in the whole body, and with a sensation of painful lassitude.

Zola's nervous system in its entirety presents cardiac spasms, cramps, pollakiura, trembling, etc. It is notably subject to crises of pain, which date from the age of twenty. From this time on to forty there were periods of nervous colic. From forty-five to fifty these crises took the form of angina pectoris, of acute cystitis, and of articular rheumatisms. At present these troubles are less, but they are replaced by a state of almost constant feebleness and irritability. Sometimes gastric troubles are the occasion of nervous manifestations, but at present it is intellectual or muscular effort which provokes them; sometimes the slightest thing is sufficient to awake them, such as a too close fitting garment; thus the squeezing in a crowd once provoked a crisis of agony with false angina pectoris; so the pricking of his finger has been felt in his arm for several hours.

There exists then in Zola a certain lack of nervous equilibrium, an exaggerated morbid emotivity, which under the influence of slight excitations, causes disordered and painful reactions.

This condition frequently accompanies intellectual superiority, develops with exercise of brain and mind, and tends gradually to increase the lack of nervous equilibrium.

PSYCHOPHYSICAL EXAMINATION.

Psychophysical examination is difficult with a neuropathic subject. Mental experiments or tests are subject to many variations,

their results are at best approximate, yet within certain limits they can indicate tendencies in a personality that may be as valuable to know as any physical data. Another difficulty is that many of the tests have not been made on a sufficient number of persons to form any basis for comparison. Such results will be of more value in the future, when the study of living men shall have reached a more developed stage.

SENSATION AND PERCEPTION.

Sensation from one point of view is physiological, from another standpoint, it is psychical; that is, it is perception. The tactile perceptions, like the sensations, are generally acute in Zola. Thus tests were made in the perception of surface, of form, of thickness, and of weight. Visual perceptions are feeble, owing to near-sightedness; they consisted in distinguishing length, surface, muscular movements, and color.

In perceptions of hearing Zola shows a very poor musical ear. He has neither colored audition nor any psychical analogue. Perceptions of smell are not quantitative, but in comparing and distinguishing odors he shows the finest precision. One of his distractions is to tell what he is to have for dinner; he can distinguish tomatoes, chicken, mutton, and different species of fish. His memory of olfactory sensations is very strong. Odors play a prominent rôle in his writings as well as his life. There is nothing peculiar in his perception of taste, of time, or of space.

The nature of his mental images is auditive, that is, in the art of verbal thinking he tends to make use of the auditive images of the word.

In speaking he has no qualities of an oratorical nature; he is very nervous and timid, and emotion inhibits or paralyzes him. He also has a poor memory of words, phrases, or constructions. He has never been able to learn another language. He has tried to commit his discourses to memory, but he has only increased his difficulties.

His handwriting varies very much. In copies, the small letters are normal, inclined to the right and not higher than two millimetres; in his note book, the letters reach five millimetres in height and vary continually in inclination, corresponding to the intensity of his thought.

MEMORY.

Zola remembers one or two events that occurred when he was two years old. As a boy, he had an excellent memory. After his

third year his memory became less reliable. Tests were made on his tactile and visual sensations, on his memory of objects, of form, of surface, color, movement, of ideas, of letters, of words, phrases, and figures.

As a result of these experiments in memory, his involuntary memory is much more feeble than his voluntary memory. The degree of his power of retention depends much upon the utility of the thsng to be remembered, thus enabling him to employ his memory to the best advantage and with the least loss. He user auditive images rather than visual images. While sight is the door to memory, the ear fixes and reveals memory. Zola is a visualist for objects and an auditive for words.

ATTENTION.

Concentration of attention with Zola is not long. He does not study with success longer than three hours at a time; during most of this time he can hold his attention to work in hand without wandering on subjects that have nothing to do with the task before him. While, then, his attention is short, it is intense and is like to his muscular effort.

He easily becomes oblivious to all surroundings when studying. Thus when coming down to breakfast he finds that the bell has been ringing many times, the dog barking a long time, and that the weather has suddenly changed. At table, in the street, or in an ordinary conversation his power of attention is small; he is often absorbed in reflection, meeting acquaintances, apparently looking at them and yet not recognizing them. His faculty of observation is very much developed, in addition to being greatly exercised.

REACTION TIME.

His reaction time is 136 thousandths of a second, which is less than the general average, but its extreme regularity indicates power of attention and assimilation. The motor reactions are shorter than the sensorial. The reactions of choice are little shorter than the normal.

IDEAS OF ZOLA.

His knowledge is extensive if not profound; he was attracted to the natural and medical sciences.

Genius according to Zola is not rarity nor perfection; its three characteristics are creation of being, power, and fecundity; genius reproduces nature with intensity.

Right is the application of justice. There is an antithesis between natural law and written law, which is a bad application of justice to society.

Justice is a social idea ; it does not exist in nature ; equality is not in the nature of things.

Woman has less equilibrium and initiative than man and in general she is inferior to man ; yet in little things she is superior to her husband.

Zola does not respond to metaphysical ideas ; he is a positivist ; yet he believes in complete annihilation after death. God for him is a naïve hypothesis and all affirmations of religious dogma seem inconsistent and without common sense.

He bases morality on observation of moral laws. He has a pagan conception of life ; that which is healthful does not injure ; that which is outside of nature is incomprehensible. His ideas of order and method are very developed ; he is a slave to them ; they extend from the care of his toilet to the composition of his works. Everything has its place in his apartment ; disorder pains him ; his study table is so well arranged that one would not know that he used it ; he classifies his work in envelopes. He keeps the letters he receives, although the most of them are of no use to him.

EMOTIVITY.

While physically Zola is somewhat abnormal in his sensations, yet not so in all his manifestations of sensibility. The simple emotions of joy and sadness are intense. Health, self-control, and an easy functioning of his organism give him great pleasure. Moral pain depresses him, but without causing violent reaction. His sympathy is with natural things ; it is not quickly aroused. He does not make acquaintances easily.

As to his taste, there are three things most beautiful—youth, health, and goodness. He loves jewels and steam engines, that is, the fineness and solidity of labor. He loves city scenes and landscapes. In the world of colors, he prefers red, yellow, and green, and faded shades. In odors, he prefers the natural ones, the flowers, but never artificial ones. He likes sweet things.

Fear is the principal emotion in him connected with the instinct of self-preservation. He has not much fear of the bicycle, but he does fear to ride through a forest at night. He has no fear of dying suddenly. He has no fear of being buried alive, yet sometimes when in a tunnel on a railroad train, he has been beset with the idea of the two ends of the tunnel falling in and burying him.